

Topological studies of light-flavor hadron production in high multiplicity pp collisions with ALICE at the LHC

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Recent measurements in high-multiplicity pp and p-A collisions have revealed that these small collision systems exhibit collective-like behaviour, formerly thought to be achievable only in heavy-ion collisions. To understand the origins of these unexpected phenomena, event shape observables can be exploited, as they serve as a powerful tool to disentangle soft and hard contributions to particle production.

Results on the production of light flavor hadrons (π , K p, ϕ and Ξ) as a function of Transverse Sphericity (S_0) and Relative Transverse Activity (R_T) in high multiplicity pp collisions at $\sqrt{s} = 13$ TeV measured with the ALICE detector are presented. Hadron-to-pion ratios in different S_0 and R_T classes are presented and compared with state-of-the-art QCD-inspired Monte Carlo event generators. The evolution of charged particle average transverse momentum with multiplicity, S_0 and R_T is also discussed in the context of radial flow or flow-like effects.

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Secondary track (number)

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